2025 Fall Math 1580.002 Survey of Math with Applications

Instructor Information

Name: Vedant Tripathi

Class Meets: Matthew 312, Monday, Wednesday Friday 12:00 PM to 12:50 PM

Office Location: GAB 468

Office Hours for Student Support: MWF 8:00 AM to 8:50 AM and 10:00 AM to 10:40AM

I'm here to support your learning and success in this course. During office hours, you can ask questions, review content, or get help with assignments.

How to Contact Me

Please reach out whenever you have questions, need clarification, or want to let me know about anything affecting your participation in the course. You can contact me through the Canvas Inbox or UNT email using your official UNT email account. Please include MATH1580.002 in the subject line.

You can expect a response within **one business day**. If you don't hear back, feel free to send a follow-up message.

Please remember to keep all communication respectful and professional, following UNT's General Online Communication Guidelines.

Course Overview

This course is designed to build your mathematical problem-solving skills through engaging, real-world applications. You'll explore topics including personal finance, apportionment methods, set theory, probability and statistics, and graph theory. Beyond the math itself, you'll strengthen critical thinking, adaptability, and resilience – skills that will benefit you far beyond this class.

Catalog Course Description

3 hours. Topics include probability, statistics, algebra, logic, and the mathematics of finance. Additional topics are selected from geometry, sets, cryptography, fair division, voting theory, and graph theory. Emphasis on applications. Recreational and historical aspects of selected topics are also included. Technology is used extensively.

Note: This course does not serve as preparation for calculus, science, engineering, or business courses.

Course Prerequisite and Other Readiness Expectations

- TSI complete in Math.
- A consistent learning ethic and willingness to stay engaged with the course material. In math courses, regular practice, persistence, and thoughtful diligence are essential for success.
- Digital Literacy

- Navigate Canvas.
- Complete assignments online.
- Download and print required course materials.

Course Structure

This course meets in person on campus three (3) days per week. To create a positive learning environment, please arrive on time, stay for the entire class, and be considerate of your classmates by minimizing distractions. Your punctual attendance and engagement helps students get the most out of each class. There is **no remote or online option** for this course.

The course begins with the first content module, already available on Canvas. New modules will unlock as we move forward.

Course Objectives

Upon completion of this course, the successful student will be able to:

- Solve problems involving voting and apportionment methods.
- Apply mathematical models to solve personal finance problems.
- Use set theory concepts to construct Venn diagrams and solve related problems.
- Interpret, analyze, and draw conclusions from data representations.
- Apply fundamental principles of probability and counting techniques to solve problems.
- Use graph theory to model and solve application-based problems.

Required Course Materials

Pearson MyLabs Math (MLM) Requirement

This course uses Pearson MyLabs Math (MLM), an essential web-based platform that hosts the majority of your homework, an interactive e-text, and additional resources. Access to MLM is required.

MLM includes:

- Homework assignments for each content module
- The e-text of *Thinking Mathematically* by Robert Blitzer (8th Edition)
- Additional learning resources

You'll register for MLM through the Access Pearson link in canvas (left-hand navigation). Be sure to register using your official UNT name, as I cannot award credit for work submitted under a different name

Deadline: Register by the second day of the term. See the Start Here module in Canvas for full instructions.

Trial Access: If needed, you may begin with a 14-day no-cost trial if you have not previously used this option for this course. Be sure to purchase full access before the trial ends to avoid losing progress or credit for completed work.

For more details about purchasing access, refer to the *Start Here* module in Canvas. Let's start strong!

Note-taking Materials

- Fill-in lecture notes: Available on Canvas.
- Additional materials: Paper and pencil to take notes of video lessons and learning activities.

Calculator

You may use a TI-36 or a basic graphing calculator (TI-84 or equivalent). I provide instructional support for only these models.

Technology Requirements

To complete this course, you must have

- A desktop, laptop, or tablet that is compatible with Canvas and required software.
- *Note:* Smartphones are **not** sufficient for completing coursework.
- Reliable internet access is essential.
- Access to Microsoft Excel through UNT Office 365: Microsoft Office 365 .
- See AI Policy under Course Policies.

Check Canvas Technical Requirements to ensure your device is compatible.

Course Evaluation & Grading

Evaluation

Your grade in this course is determined by your performance on the following components:

- Homework (MLM and other assignments) – 30%
- Midterm Exams (average of all) – 50%
- Final Exam – 20%

Grades will be posted in the Canvas Grades tab throughout the course. The Totals column is only an estimate until all assignments are entered, and the course grade is calculated per the evaluation criteria.

Grading Scale

Letter Grade	**Percentage Range**	**Description**
A	90–100%	Outstanding, excellent work
B	80–89%	Good, impressive work
C	70–79%	Solid, college-level performance
D	60–69%	Below average, needs improvement
F	Below 60%	Unsatisfactory, does not meet minimum criteria

Grading Philosophy

Your course grade is based entirely on your individual performance on graded assignments and assessments. I do not grade on a curve, as doing so would compare your results to others. Instead, I encourage you to collaborate with peers to deepen your understanding while focusing on your own progress.

Resources for Success

College math success doesn't happen in isolation. Support and collaboration make a big difference. Below are key resources to help you stay on track and strengthen your understanding:

- **Instructor Support**: Message me through Canvas Inbox. I respond to most student messages in one business day.
- **Study Groups**: Use the Navigate Study Buddy tool to connect with classmates and study together. Collaborative learning strengthens understanding.
- UNT Math Lab: Free math tutoring in a welcoming environment.
- The Learning Center: Academic coaching, workshops, and tutoring to support your success across all courses.

Course Components

Homework – Learn by Practice!

Homework assignments are designed to provide you the practice needed to learn and retain new content. Most modules include multiple assignments per week, beginning the first day of class.

All assignments are accessed directly on Canvas. Keep a dedicated notebook for your math work, where you write out steps for each exercise. This organization supports better understanding and exam preparation.

- **Attempts:** Most MLM homework exercises allow 3 attempts per question. Questions with only two or three answer choices allow only 1 attempt.
- **Due Dates:** MLM assignments are due *by* 11:59 PM, the class period following the content. If the due times conflict with your schedule, work ahead.
- **Late Work Policy:** This class does not accept late work. However, your three lowest homework scores will be dropped at the end of the term.
- **MLM HW Grace Period:** To support your learning, you can submit most MLM assignments for up to 70% credit until 8:00 am on the Monday following the week it was due. To access missed assignments, use the password: **Late**.

In addition to MLM homework, this category may include other graded assignments on Canvas, such as learning support activities, which also count as a homework assignment.

Exams

You have four (4) exams, three (3) midterm exams and a final exam. The midterm exams are ***tentatively*** scheduled as follows. Any changes to an exam date or exam content will be announced in class.

Exam 1 – Friday, Sept 19 (Module 1 & Module 2)

Exam 2 – Wednesday, Oct 22 (Module 3 & Module 4)

Exam 3 – Friday, Nov 21 (Module 5 & Module 6)

Final Exam – Wednesday, Dec 10 10:30AM to 12:30 PM as prescribed here: Final Exam Schedule

Any changes to exam dates or content will be announced in Canvas.

Exam Policies

Exams must be taken in class as scheduled or a grade of zero will be assigned.

Missed exams cannot be made up. However, if you have a university-excused absence (Policy 06.039) and provide official documentation within two business days, your final exam score may replace the missed exam grade

Extra Credit Opportunities

You have two ways to earn extra credit in this course: by completing Study Plan quizzes before each midterm exam and by achieving high scores on Final Exam review homework assignments. These opportunities are designed to reward consistent effort and strong preparation.

Study Plan Quizzes – Midterm Exam Bonus

Each exam covers two modules, and each module includes **a timed Study Plan quiz in MyLabs** Math (MLM). These are not required but offer an excellent way to review key concepts and earn extra points toward your exams.

- Quizzes close at 11:59 PM the day before the exam.
- You may attempt each quiz up to five times.
- Your highest score determines your bonus.
- Bonuses from both Study Plan Quizzes are combined and applied to the corresponding exam.

Score Achieved	**Bonus Points Toward Exam**
90% or higher	+5 points
80–89%	+4 points
70–79%	+3 points
Below 70%	No bonus

Final Exam Review Homework – Final Exam Bonus

You will complete three comprehensive review assignments in MLM to prepare for the final exam. These assignments are required and graded.

You can also earn bonus points on the final exam based on your performance:

Reviews Completed with ≥ 90%	Bonus Points on Final Exam
1	+3 points
2	+6 points
3	+10 points

Exam Grade Replacement Option

If you earn all 10 bonus points on the final exam (by scoring 90% or higher on all three review homework assignments), you may replace one low module exam grade with your final exam score—if the final exam grade is higher.

Consistently completing your assignments, preparing for exams, and taking advantage of engagement and extra credit opportunities will position you for success in this course.

~This course does not accept late work regardless of the reason.~

Changes to Syllabus

I will post any changes to the syllabus as an Announcement on Canvas.

Course Schedule

Schedule is subject to change and updates will be announced in class. Assignments in MyLabs Math (MLM) are due by **11:59 PM** of the class day following the lesson. Most missed MLM assignments can be completed for up to 70% credibly if submitted by 8 am on the Monday following their due date.

Week 1

Date	Scheduled Content	Other Assignments
8/18/2025	Course Introduction & Problem-Solving	
8/19/2025		
8/20/2025	1.1 Voting Methods	MLM Orientation
8/21/2025		
8/22/2025	1.2 Flaws of Voting Methods	

Week 2

Date	Scheduled Content	Other Assignments
8/25/2025	1.3 Apportionment Methods Part 1 1.3 Apportionment Methods Part 2 (Canvas)	
8/26/2025		
8/27/2025	1.4 Flaws of Apportionment Methods	
8/28/2025		Module 1 Study Plan
8/29/2025	2.1 Percents, Sales Tax, and Discounts	

Week 3

Date	Scheduled Content	Other Assignments
9/1/2025	**Labor Day – University Closed**	
9/2/2025		
9/3/2025	2.2 Simple Interest, 2.3 Compound Interest	
9/4/2025		
9/5/2025	2.4 Methods of Saving: Investments	

Week 4

Date	Scheduled Content	Other Assignments
9/8/2025	2.5 Basics of Loans, Parts 1, and 2	
9/9/2025		
9/10/2025	Catch-up, Get ahead	
9/11/2025		
9/12/2025	2.6 Income Tax	

Week 5

Date	Scheduled Content	Other Assignments
9/15/2025	2.7 Federal Student Loans (Canvas)	
9/16/2025		Module 2 Study Plan
9/17/2025	Wrap-up	
9/18/2025		
9/19/2025	EXAM 1 (Mod 1 & Mod 2)	

Week 6

Date	Scheduled Content	Other Assignments
9/22/2025	3.1 Basic Set Concepts	
9/23/2025		
9/24/2025	3.2 Subsets	
9/25/2025		
9/26/2025	3.3 Set Operations & Venn Diagrams	

Week 7

Date	Scheduled Content	Other Assignments
9/29/2025	3.4 Set Operations & Venn Diagrams w 3 Sets	
9/30/2025		
10/1/2025	Catch-up, get ahead	
10/2/2025		Module 3 Study Plan
10/3/2025	3.5 Surveys	

Week 8

Date	Scheduled Content	Other Assignments
10/6/2025	4.1 Gathering, Organizing, and Visualizing Data	
10/7/2025		
10/8/2025	4.2 Measures of Central Tendency	
10/9/2025		
10/10/2025	4.3 Measures of Dispersion	

Week 9

Date	Scheduled Content	Other Assignments
10/13/2025	4.4 The Normal Distribution	
10/14/2025		
10/15/2025	4.5 Applications Involving the Normal Distribution	
10/16/2025		
10/17/2025	4.6 Scatter Plots, Correlation, and Regression Lines	Module 4 Study Plan

Week 10

Date	Scheduled Content	Other Assignments
10/20/2025	Wrap-up	
10/21/2025		
10/22/2025	EXAM 2 (Mod 4 & Mod 5)	
10/23/2025		
10/24/2025	5.1 Counting Methods 1: FTC and Permutations	

Week 11

Date	Scheduled Content	Other Assignments
10/27/2025	5.2 Counting Methods 2: Combinations	
10/28/2025		
10/29/2025	5.3 Fundamentals of Probability	
10/30/2025		
10/31/2025	5.4 Probability Involving Counting Methods	

Week 12

Date	Scheduled Content	Other Assignments
11/3/2025	5.5 The Additional Rule, the Complement Rule, and Odds	
11/4/2025		
11/5/2025	5.6 Conditional Probability and the Multiplication Rule	
11/6/2025		
11/7/2025	5.7 Expectation	Module 5 Study Plan

Week 13

Date	Scheduled Content	Other Assignments
11/10/2025	6.1 Graphs Paths, and Circuits	
11/11/2025		
11/12/2025	6.2 Euler Paths and Euler Circuits	
11/13/2025		
11/14/2025	6.3 Hamilton Paths and Hamilton Circuits	

Week 14

Date	Scheduled Content	Other Assignments
11/17/2025	6.4 Trees – late accepted until 8am Wednesday	Module 6 Study Plan
11/18/2025		
11/19/2025	Wrap-up	
11/20/2025		
11/21/2025	EXAM 3 (Mod 5 & Mod 6)	

Thanksgiving Break November 24 - 30

Week 15

Date	Scheduled Content	Other Assignments
12/1/2025	Final Exam Review 1 (MLM HW)	
12/2/2025		
12/3/2025	Final Exam Review 2 (MLM HW) Final Exam Review 3 (MLM HW)	
12/4/2025	Pre-Finals Day	
12/5/2025	Reading Day – No Classes	

Final Exam Week

Date	Scheduled Content	Other Assignments
12/10/2025 *10:30 AM to 12:30PM*	**Final Exam,** see Final Exam Schedule	

Course Policies

Academic Integrity

Regular attendance and active participation are key to your success. You are expected to attend every class unless you have a university-excused absence (e.g., military service, religious holy day, official university event) as outlined in Student Attendance and Authorized Absences Policy. If you miss a class due to an emergency, please notify me.

Arrive on time to avoid disruptions; lateness or leaving early may count as an absence. Classes are not recorded, so attending live and taking notes is essential. Lectures won't be repeated outside class—office hours are for specific questions only.

AI Use Policy

Generative AI tools (e.g., ChatGPT, Microsoft Copilot) may be used to check grammar, spelling, and help format or revise your own written work, but their use must be disclosed in your submission. Using AI to produce entire assignments or during exams is prohibited. Violations will be treated as academic integrity issues under university policy.

Attendance

Regular attendance and active participation are key to your success. You are expected to attend every class unless you have a university-excused absence (e.g., military service, religious holy day, official university event) as outlined in Student Attendance and Authorized Absences Policy. If you miss a class due to an emergency, please notify me.

Arrive on time to avoid disruptions; lateness or leaving early may count as an absence. Classes are not recorded, so attending live and taking notes is essential. Lectures won't be repeated outside class—office hours are for specific questions only.

Examination Policy

Exams are given in class on the scheduled date. Late exams, make-ups, re-takes, or extensions are not available. If you miss an exam, the score will be recorded as zero.

However, if your absence qualifies as a university excused absence under Policy 06.039 and you provide me documentation within two business days, your final exam grade may replace the missed exam score.

Early Exam Request

If you have a conflict with a scheduled exam date, you can request to take your exam early. Please send your request via **Canvas Inbox** at least **one week** prior to the desired early exam date.

Exam Etiquette

To ensure the best test-taking environment for all students, the following policies apply:

- Students who arrive late for an exam will not be allowed to take the exam and will receive a zero.
- Store all papers, textbook, notes, and other materials in a closed backpack or bag.
- Do not wear caps or hoodies during exams.
- Turn off and remove all non-medically necessary electronic devices, including but not limited to cell/smart phones, earpieces, headsets, laptops, smartwatches.
- Handling any unapproved electronic device during an exam will be considered cheating, results in a score of zero, and will be reported to the Academic Integrity Office.
- Remain courteous and quiet throughout the exam.
- Present your UNT photo ID upon request.
- Bring your own pencils, erasers, and approved calculator. Sharing materials is not permitted.
- No extra paper permitted; exams include sufficient space to show all work.

- Legibly print your name in English letters on both the exam and the scantron form, if used. No name, no credit.
- Submit exams by 12:45 pm. Exams not submitted by 12:45 pm may receive a zero.

Late Work Policy

UNT is a community of achievers and success depends on staying on schedule. This course holds students to high standards with built-in flexibility.

- **Exams:** There are no late exams or retakes. If an exam is missed, a grade of zero is recorded. (See Examination Policy.)
- **Timely Submissions:** All work must be submitted by the posted due date.

This course does not accept late work beyond the limited grace period built into MyLabs.

Student Support Services & Assistance

Academic Support & Student Services

UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to Succeed at UNT (unt.edu/success) and explore the many links at Wellness at UNT (unt.edu/wellness). To get all your enrollment and student financial-related questions answered, go to Integrated Student Services (scrappysays.unt.edu).

Technical Assistance for Online Course System

The University is committed to providing a reliable online course system to all users. However, part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

Visit the UIT Help Desk website for their current support hours. Website links, email, phone number, and office location provided as follows:

AIT Help Desk: AIT Student Help Desk (http://aits.unt.edu/support/)

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 330

Canvas Technical Requirements: Canvas Technical Requirements

(https://digitalstrategy.unt.edu/clear)

Additional Canvas Support: Canvas Technical Help

(https://community.canvaslms.com/docs/DOC-10554-4212710328)

Pearson MyLabs Student Technical Support

MyLabs offers student technical support.

Website: Pearson Student Technical Support

Welcome to UNT!

As members of the UNT community, we have all made a commitment to being part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation.

UNT Policies

Academic Integrity Standards and Consequences. Policy

According to UNT Policy 06.003: Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

Every student in my class can improve by attending class, consistently doing their own work, and accessing appropriate resources. Academic Integrity Policy violations will not. Read and follow this important set of guidelines for your academic success.

ADA Accommodation Statement

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time; however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Access website. (https://disability.unt.edu/).

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail Eagle Connect (https://it.unt.edu/eagleconnect).

Emergency Notification and Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency. In the event of a university closure, please refer to the UNT Learning Management System, Canvas, for contingency plans for covering course materials.

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website (http://spot.unt.edu/) or email spot@unt.edu.

Important Notice for F-1 Students taking Distance Education Courses

Federal regulations state that students may apply only 3 fully-online semester credit hours (SCH) to the hours required for full-time status for F-1 Visa (PDF) holders. Full-time status for F-1 Visa students is 12 hours for undergraduates and 9 hours for graduate students.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses. See Student Identity Verification Policy, (https://policy.unt.edu/policy/07-002).

Summary of Key Dates – 2025 Fall

See, Academic Calendars by Semester, for the complete list.

August 18: Classes begin.

August 22

Last Day to Add a Class or Swap Sections. A swap is switching sections of the same course in the same session.

August 29

Last Day to Drop a Class Section Without W. Courses dropped before this date will not appear on official transcript. Dropping courses may impact financial aid and degree completion. See advisors.

August 30

Drop with a grade of W Begins. Courses appear on the transcript with a grade of W and tuition and fees remain. Dropping courses may impact financial aid and degree completion. See advisors.

September 26: Last Day to Change to Pass/No Pass (undergrads)

October 10: Midpoint of the Semester

November 7: Last Day to Drop a Course or All Courses with a Grade of W.

November 8

First Day to Request a Grade of Incomplete. Beginning this date, a student may request a grade of "I", incomplete, a non-punitive grade given only if a student (1) ***is passing***, (2) has justifiable reason why the work cannot be completed on schedule; and (3) arranges with the instructor to complete the work in no more than one academic year.

December 3 – 4 : Prefinal Days

December 4: Last Regular Class Meeting

December 5: Reading Day – No Classes

December 6 – 12 : Final Examinations

December 12 : Last Day of Session